ALEX BT
Diagnostic Interface

User Manual

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www.autogas-alex.com

ALEX
PROFESSIONAL AUTOGAS INSTALLATIONS

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Download the configuration program for the ALEX BT interface here:

1. Description of the ALEX BT wireless interface

The ALEX BT interface is used for wireless connection of the gas installation controller with a PC or smartphone, using the Bluetooth protocol. This device can work with all types of installations, thanks to the possibility of changing data transmission parameters such as: transmission speed, number of stop bits and parity control. The connection can be established when the PC is equipped with an internal or external Bluetooth module.

The ALEX BT interface is equipped with a LED diode and a sound converter signaling the current operating status of the device:

- *LED blinks with a period of 100ms* - device configuration is in progress
- *LED blinks with a period of 1s* - the device is establishing a connection
- *LED permanently on* - the device is connected
- *Short beep every 2s* - the device is connected and its initialization / configuration is in progress
- *Two short beeps every 5s* - the device is connected and waiting for a connection to be established
- *Two short beeps* - connection established
- *Continuous audible signal* - connection lost or terminated

Attention! The volume of the acoustic signal can be changed in the configuration software!

1.1 Description of the pins

The ALEX BT interface is equipped with a standard 4-pin male AMP SuperSeal connector, which allows direct connection to most gas installations. The device can be connected to the controller of any gas installation, paying attention to the sequence of signals in the connector. In some cases, it is necessary to use an adapter if the signal sequence is changed or the gas system has a different communication interface connector.

Installations supported without adapters	– ALEX OPTIMA/IDEA – AC STAG 200 / STAG 300 / STAG 300 PLUS / STAG 300 PREMIUM / STAG 4 / ISA2/ ISA3 / STAG DPI / STAG XL / STAG GO FAST / STAG Q-BOX / STAG Q-MAX / STAG Q-NEXT – AGIS ML210 / P13 – ATIKER FAST / MULTI FAST / SAFE FAST – CARGAS SOLARIS – DIGITRONIC DGI / EASY FAST – ESGI / ESGI 2 – EUROPEGAS VECTOR 4/6/8 – IC 4-GAS – KME (after April 2009) AKME / BINGO / BINGO M / BINGO S / DIEGO / DIEGO-G3 / NEVO – LOVATO FAST / SMART / EASY – LPGTECH (all driver models) – LOGOGAS – LS NEXT – PALACAR OBD – POLETRON 26 / 1,26 / 2,26 / 3 – TAMONA TG-STREAM NEW – TEGAS TE-SL / TE-PS / TE-PM / TE-STREAM / TE-STREAM-OBD – WENTGAS – VECTOR – 4GAS
Installations supported with adapters	– ALEX BY AEB – AEB derivatives – other types of installations
Unsupported installations	– Prins – BRC – Vialle

1.2   Technical parameters

- **Supply voltage:**   8 ~ 16V DC
- **Supply current:**   50 ~ 200mA DC
- **Transmission power class:** Class 1 (range up to 100m)
- **Working temperature:**   −20°C ~ +75°C
- **Protection class:**   IP40
- **Connector:**   4-pin AMP SuperSeal, męskie
- **Device PIN code:**   1234

2. Device configuration

The ALEX BT interface has the ability to change communication parameters, device name and the volume of sound signaling from the level of the configuration program (download the configuration program here).

The ALEX BT interface can change parameters from the level of the configuration program:

- *Device name* – - the name that is displayed when searching for a device. This name can be changed, but it must contain at least 1 character, not more than 16. The name can consist of characters 0-9, A-Z, a-z, and spaces. **The name cannot start and end with a space nor -.**
- *Baud rate* – the following baud rate can be set: 1200, 2400, 4800, 9600, 19200, 57600, 115200, 230400, 460800, 921600 bps
- *Number of stop bits* – one (1) or two (2) stop bits can be set.
- *Parity check* – possibility to set no parity bit (N), odd bit (O) or parity bit (E).
- *Volume level* – the device volume can be set in the range of 0-10, where **value 0 mutes of the device completely.**

Before starting the configuration program, you must configure the wireless connection on a computer or smartphone. In the case of computers, the configuration consists in connecting to the ALEX BT interface and creating an outgoing serial communication port (COM port).

2.1 Example of setting up a wireless connection in Windows 10

Many devices have a built-in Bluetooth module. In this case, the connection to the ALEX BT interface should be established using this module. Before starting, make sure that the interface is connected to the autogas system and that it works properly, i.e. the operating status is indicated by the LED diode.

The connection setup process is as follows:

1. From the Windows 10 start menu, select *"Settings"* (Fig. 1).

2. In the system settings window, select the *"Devices"* group (Fig. 2).

3. In the Devices window, select *"Bluetooth and other devices",* and then select the option "Add a Bluetooth or other device" (Fig. 3).

4. In the new window *"Add device"* select *"Bluetooth"* (Fig. 4).

5. The next window shows the process of searching for available Bluetooth devices. Select the desired device, the default name is *ALEX BT* (Fig. 5).

6. The connection will be established after entering the PIN code of the selected device and selecting the *"Connect"* option. The PIN code is permanently set to the sequence of characters: 1234 (Fig. 6).

7. Correct connection is signaled by a message from Windows 10 (Fig. 7).

Correct configuration of the connection should end with the creation of two serial communication ports (outgoing and incoming COM ports). If for some reason they have not been created or there is a need to verify them, use the "More Bluetooth options" function (the panel on the right in the *"Devices"* window, shown in Figure 3). In the new window, select the *"COM ports"* tab (Fig. 8).

If on the list there is no visible COM port of the ALEX BT interface, it should be added by selecting the *"Add ..."* option. In the new window (Fig. 9), select the COM port type as *"Outgoing (the computer initiates the connection)"*, select the ALEX BT interface, and then approve the changes with the OK button.

After correctly adding the COM port, the list of available ports will be updated (Fig. 10).
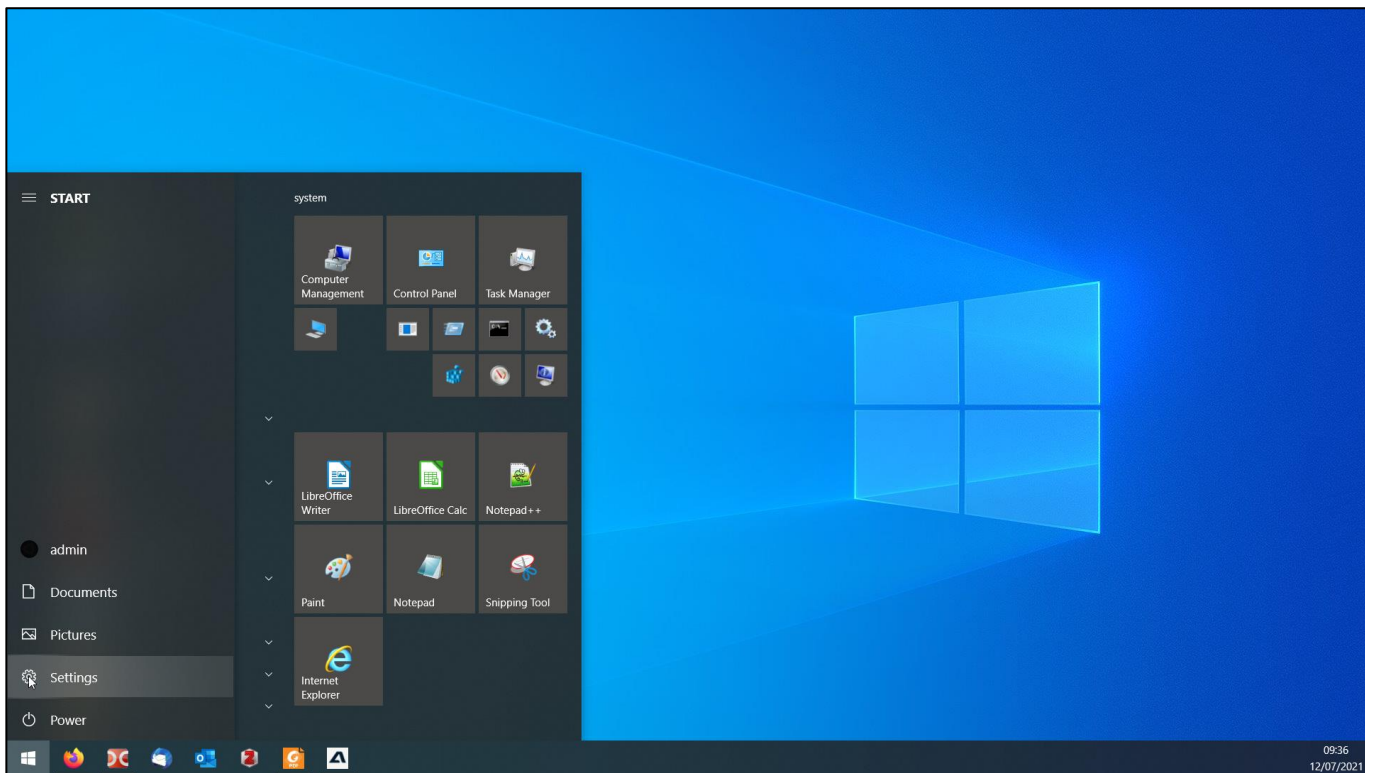
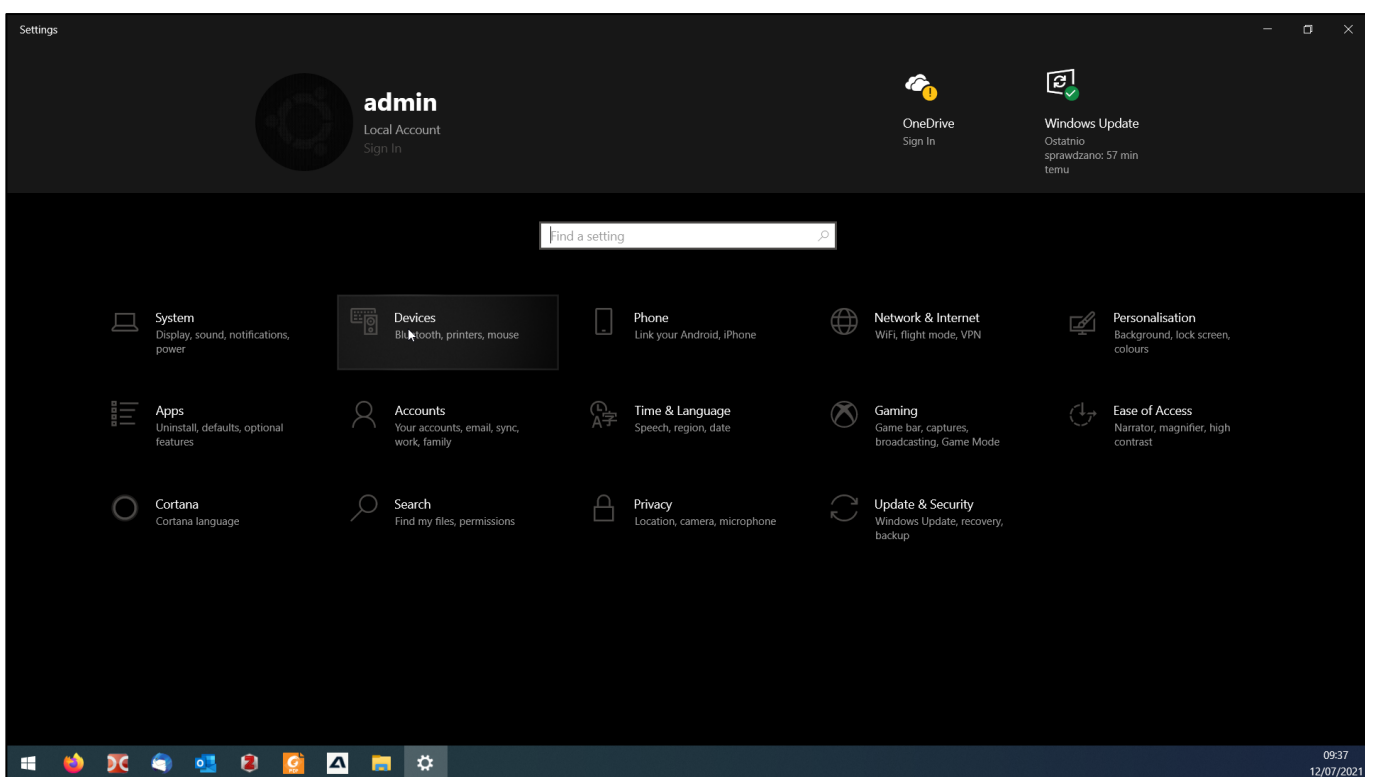Fig. 1 Going to the settings window from the Windows 10 start menu.

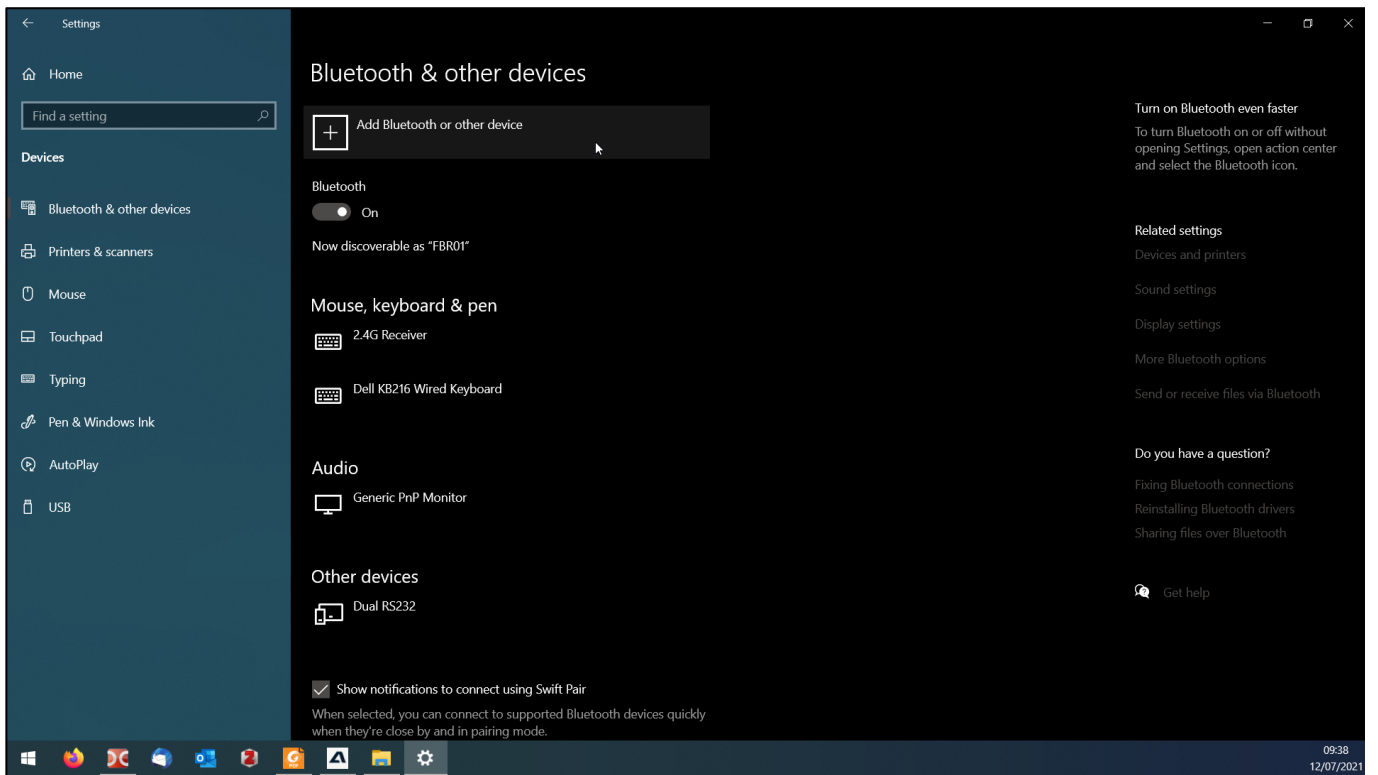Fig. 2 Selecting device settings in Windows 10.

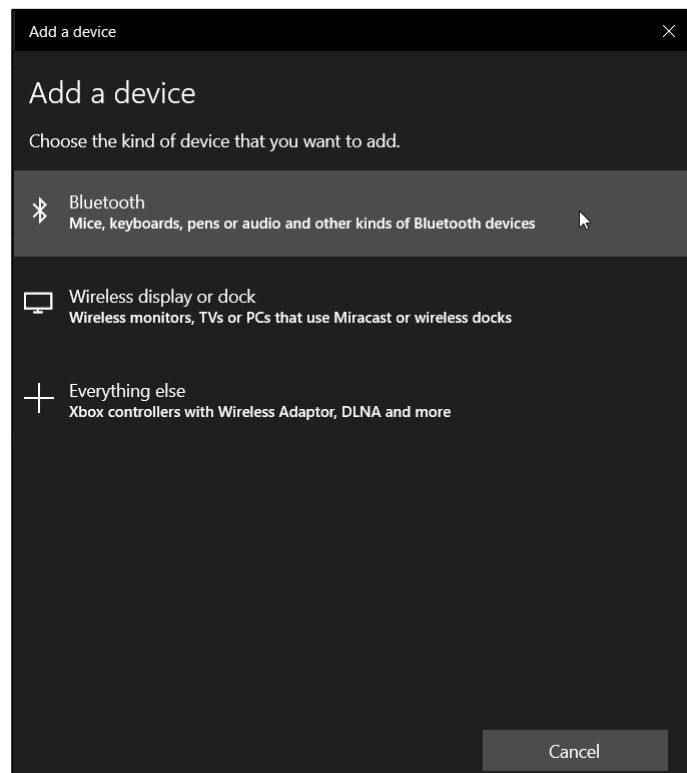Fig. 3 Adding a Bluetooth device in Windows 10.

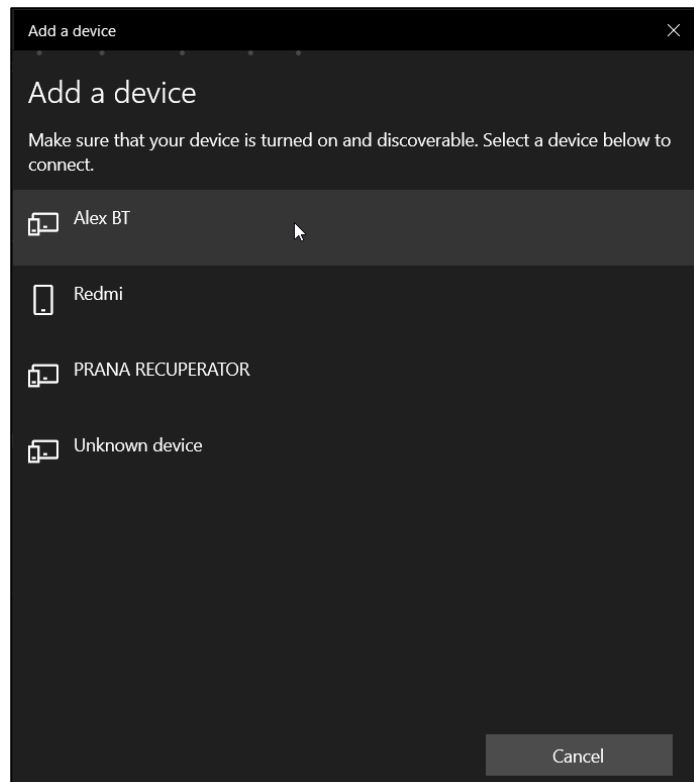Fig. 4 Selecting the device type in Windows 10.

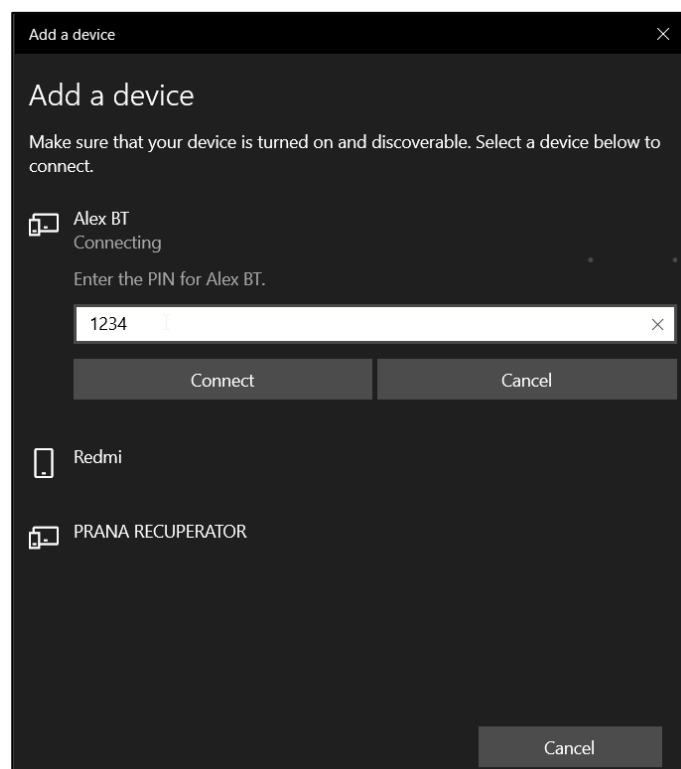Fig. 5 Searching for Bluetooth devices in Windows 10.

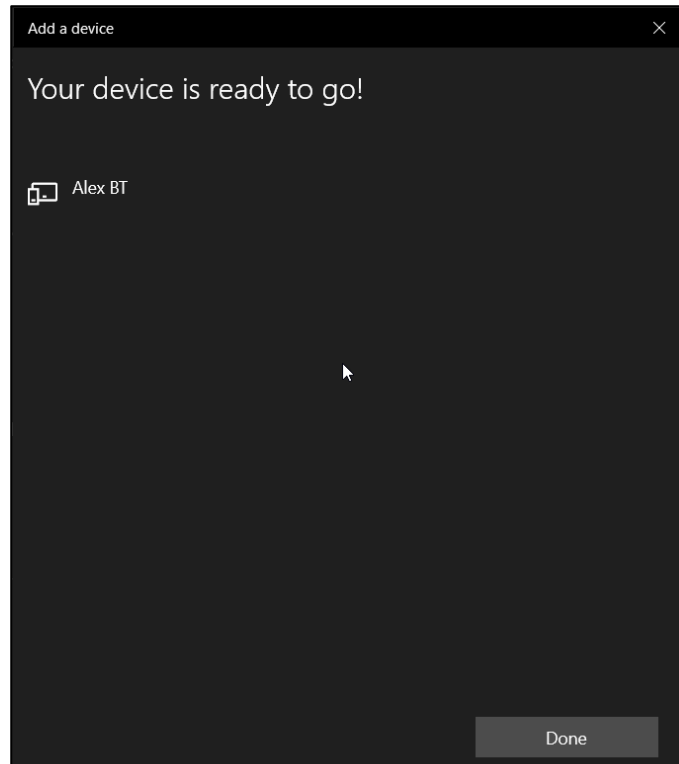Fig. 6 Connecting to the selected device and entering the PIN code in Windows 10.

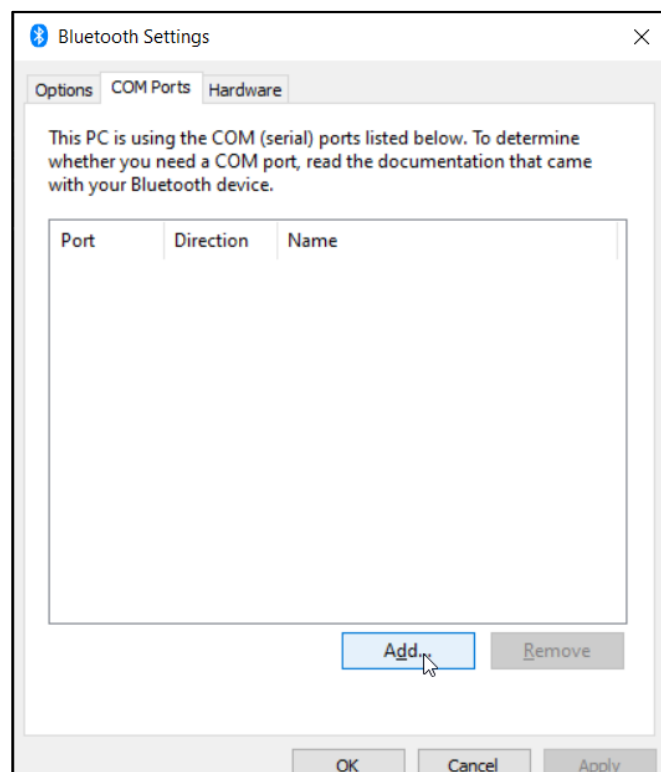Fig. 7 Finishing adding a Bluetooth device in Windows 10.

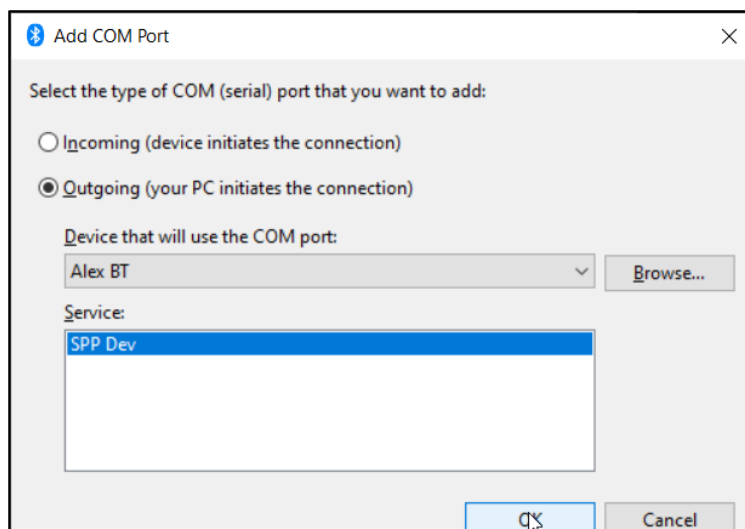Fig. 8 Additional Bluetooth options in Windows 10.

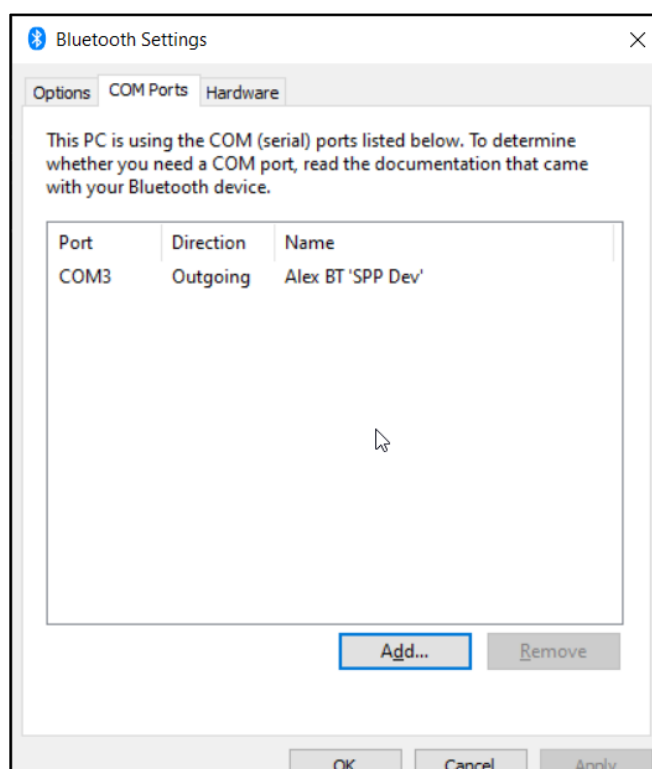Fig. 9 Adding a COM port of a Bluetooth device in Windows 10.

Fig. 10 View of available COM ports of Bluetooth devices in Windows 10.

2.2   Description of the configuration program

ALEX BT configuration program is used to change the data transmission settings, as well as to change the device name and the volume level of the acoustic signaling of the operating status.

The process of settings configuration is as follows:

1. Select the serial port of the desired ALEX BT interface (Fig. 11). The current device name is displayed next to the port number. **Attention! Changing the device name does not immediately change the name in the list of available COM ports. This name is updated by the operating system. Updating may be sped up by trying to find Bluetooth devices in the system again.**

2. Press the *"Connect"* button. After correct connection, *"Status"* will be changed to *"Connected to device"* (Fig. 12). The LED diode will stop flashing. In addition, the connection will be signaled by a beep.

3. After correct connection, you can change the transmission parameters, device name and volume. The program includes a set of transmission parameters, depending on the type of gas installation (Fig. 13). You can also select the *"Own"* option from the *"Transmission Settings"* list and manually select the required parameters (Fig. 14). After selecting the desired settings, press the "Set" button to start the configuration process. *"Status"* will be changed to *"Please wait, configuration in progress ..."* (Fig. 15).

4. After correct configuration, a confirmation message will be displayed (Fig. 16), informing about the necessity to disconnect the device with the *"Disconnect"* button or to close the configuration application, before using the ALEX BT interface with another application.
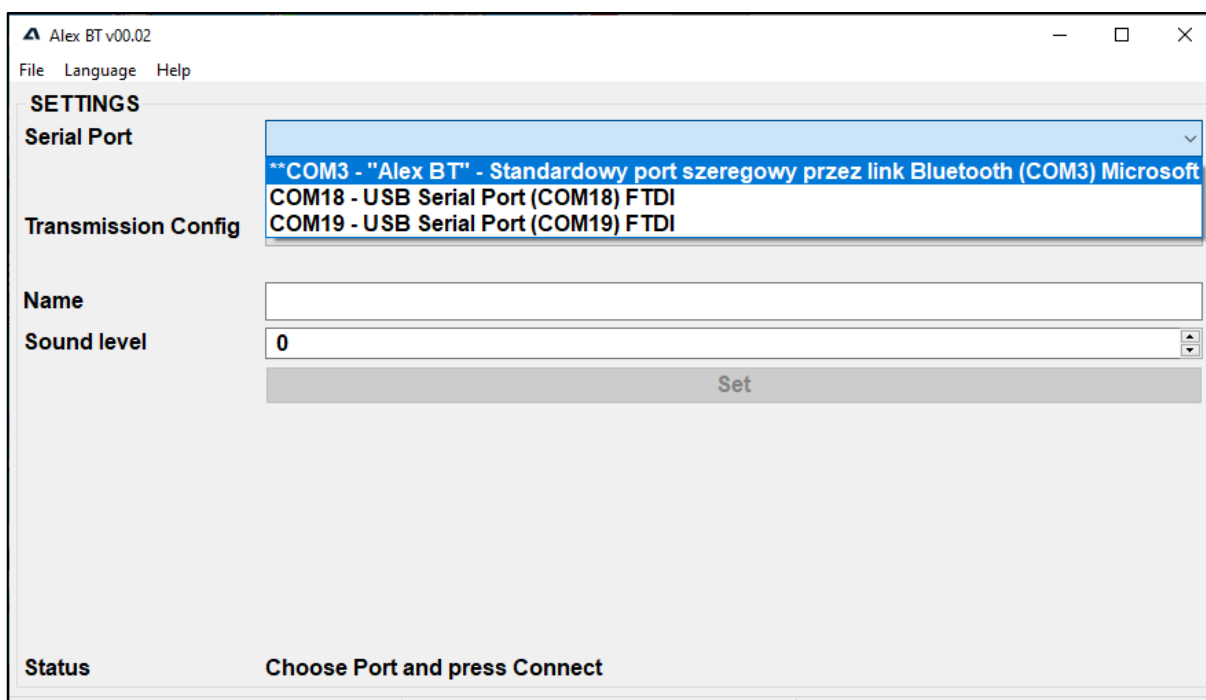
Fig. 11 Selection of the serial communication (COM) port in the ALEX BT configuration application.
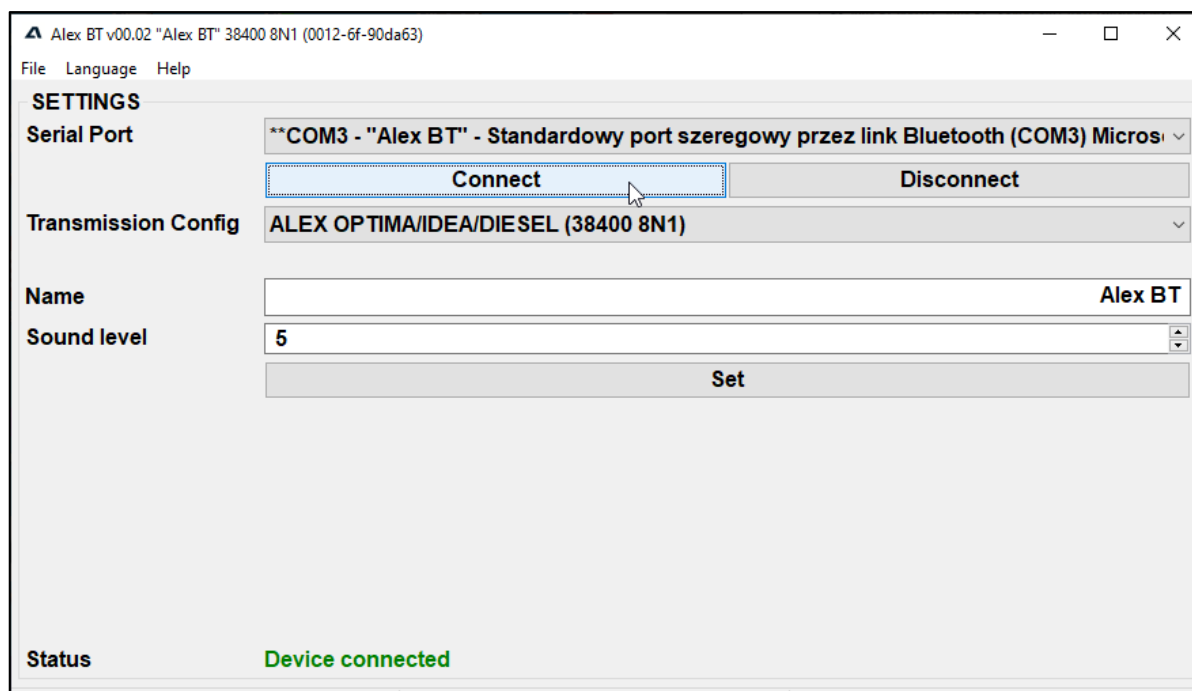

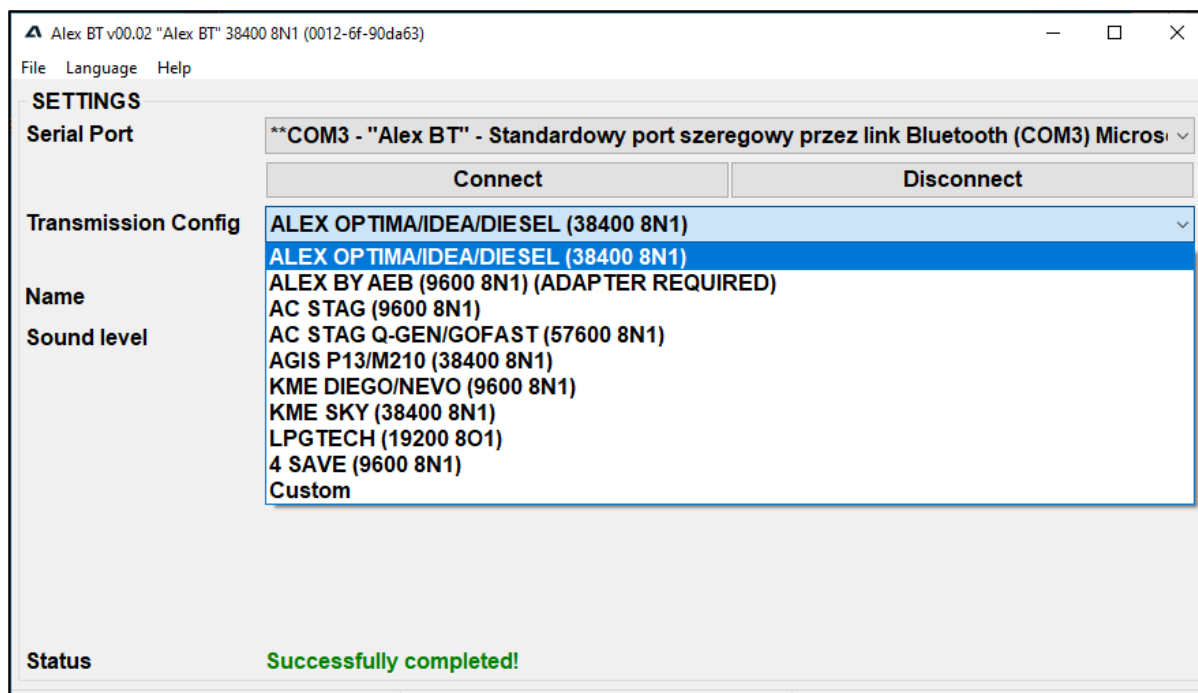Fig. 12 Correct connection with Alex BT interface, signaled in the configuration software.

Fig. 13 Selecting the desired data transmission configuration in the configuration software.
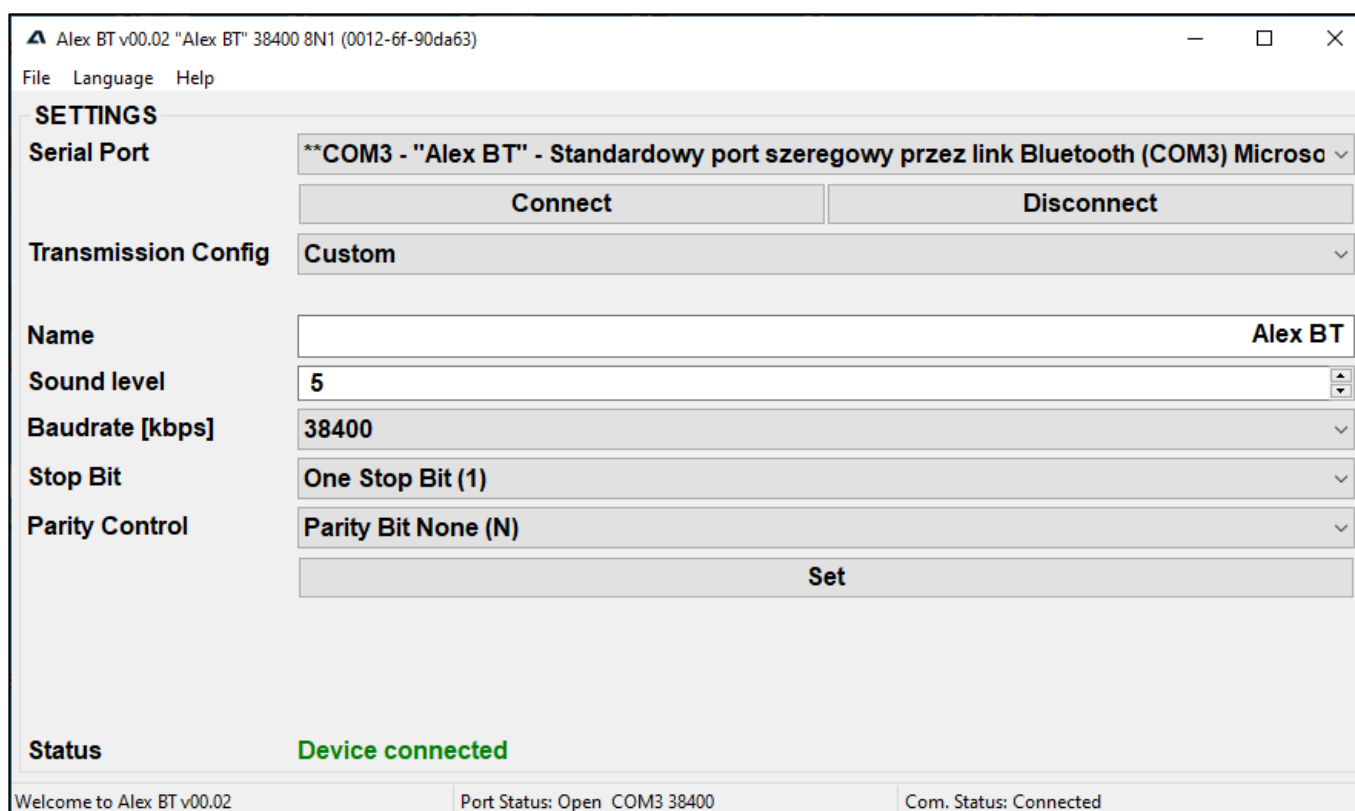

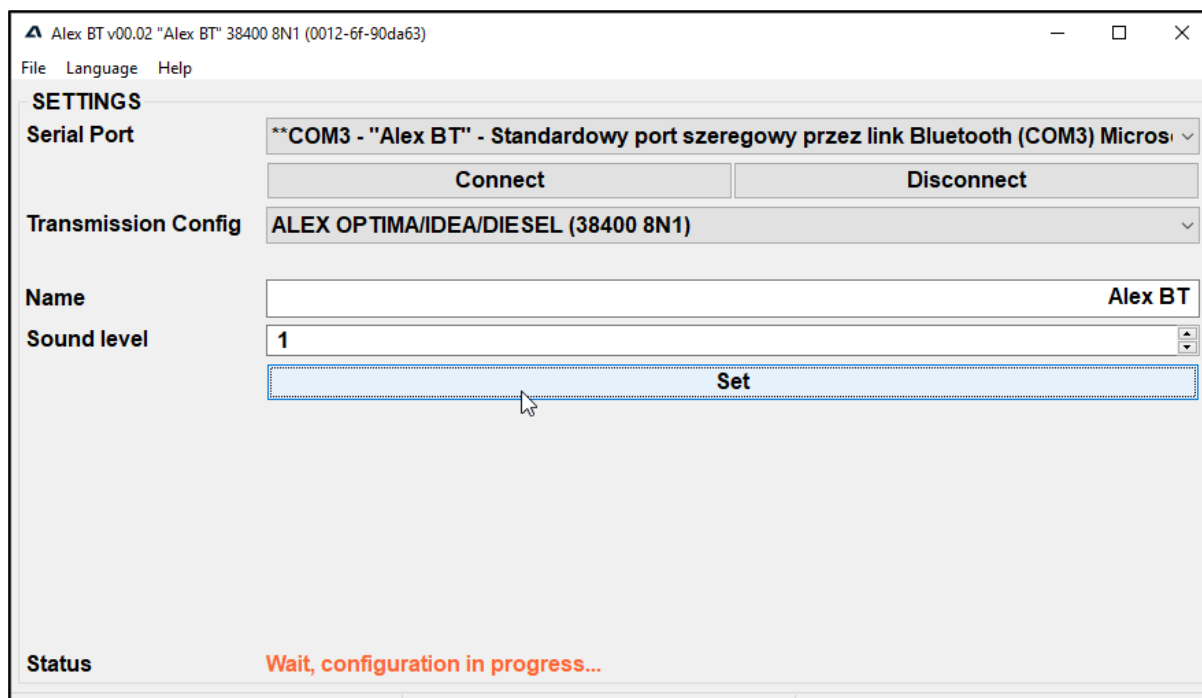Fig. 14 Possibility to freely set the transmission parameters - "Own" settings.

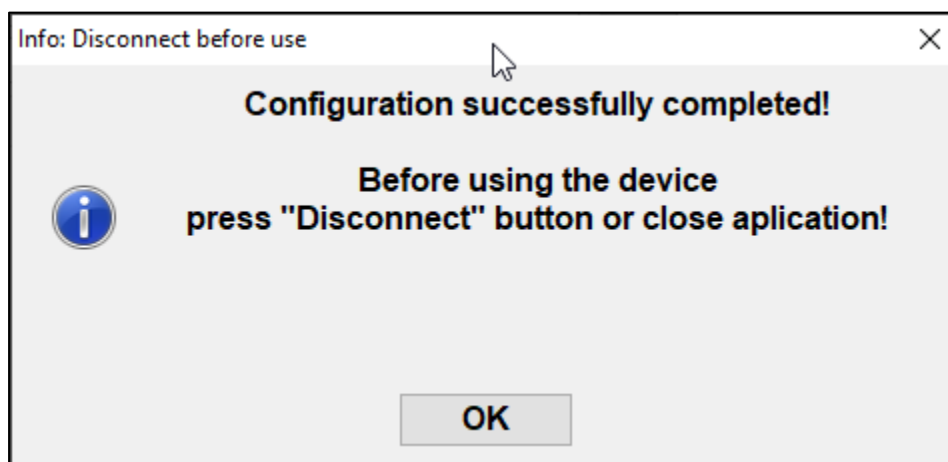Fig. 15 Signaling of the ALEX BT interface configuration process.

Fig. 16 Message informing about the successful completion of the ALEX BT interface configuration.

3. Resolving problems

The device does not start	• Check that the device is correctly connected to the gas installation. • Check that the device is powered. *Attention! In many cases, the interface is only powered after turning the ignition key!*
The device cannot be detected **Unable to connect to the device**	• Check if the device is activated (operation status signaled by the LED diode). • Check if the device is no longer connected (LED not blinking). In this case, disconnect and reconnect the interface or disconnect the Bluetooth connection. • Check that the device is not too far from the computer / smartphone. • Check if the device has completed the configuration (during configuration LED is blinking with a period of 100ms). If the device cannot complete the configuration (the process takes longer than 15 seconds), disconnect and reconnect the interface.
The device is not visible in the configuration software	Check that the device is connected and that the serial communication (COM) ports were created.
The process of changing the settings takes too long	Check if the device has completed the configuration (during configuration, the LED diode blinks with a period of 100ms). If the device cannot complete the configuration (the process takes longer than 15 seconds), disconnect and reconnect the interface, and then reconnect to the ALEX BT interface and reconfigure.
No communication with the target device / **autogas system**	• Check that the device starts up. • Check if the device is no longer connected (LED is not blinking). In this case, disconnect and reconnect the interface or disconnect the Bluetooth connection. • Check that the device is not too far from the computer / smartphone.

	- Check if the device has completed the configuration (during configuration, LED is blinking with a period of 100ms). If the device cannot complete the configuration (the process takes more than 15 seconds), disconnect and reconnect the interface. - Check if the device has been correctly configured, i.e. the transmission parameters are consistent with the transmission parameters of the target system. - Check that the device has been disconnected in the configuration software.